

Application No. 09/996,161

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REMARKS

In the Official Action mailed 15 May 2003, the Examiner reviewed claims 1-33. The Examiner rejected claims 10 and 20 under 35 U.S.C. 112, second paragraph; rejected claims 1, 2, 4, 8, 10-12, 14, 15 18, 20-22, 25, 27-29 and 32 under 35 U.S.C. 102(e); rejected claims 3 and 13 under 35 U.S.C. §103(a); rejected claims 9, 19, 26 and 33 under 35 U.S.C. §103(a); and rejected claims 7, 17, 24 and 31 under 35 U.S.C. 103(a).

Applicant has amended claims 1, 4-11, 14-33, and added new claim 34. Claims 1-34 are now pending.

The Examiner's rejections are respectfully traversed below.

Rejection of Claims 10 and 20 under 35 U.S.C. §112, second paragraph

Claims 10 and 20 are rejected under 35 U.S.C. §112, second paragraph as being indefinite. Applicant has amended the claims to address the Examiner's concern.

Accordingly, reconsideration of the rejection of claims 10 and 20 is respectfully requested, in view of the amendments.

Rejection of Claims 1, 2, 4, 8, 10-12, 14, 15 18, 20-22, 25, 27-29 and 32 under 35 U.S.C. 102(e)

Claims 1, 2, 4, 8, 10-12, 14, 15 18, 20-22, 25, 27-29 and 32 are rejected under 35 U.S.C. §102(e) as being unpatentable over Horn, U.S. Patent 6,379,314. Applicant respectfully requests reconsideration in view of clarifying amendments to the independent claims 1, 11, 21 and 27, and parallel amendments to the dependent claims.

The independent claims have been amended to clarify that the stimulus is generated using a digital stimulus signal that is a combination of the first sub-stimulus and second sub-stimulus. The Examiner cites column 7, lines 31-45 of Horn where use of a noise signal called a background sound probe is described for the purpose of minimizing variables in the hearing test. The "background sound probe" of Horn, described in the cited passage is used with a series of "pure tones", which act as stimulus in the test, for the purpose of minimizing variables that relate to the user's environment during the test (See, Horn, col. 7, lines 1-5). Apparently, the Examiner is reading the background sound probe as the first sub-stimulus and the tone as the second sub-stimulus when the tone is at a level below that detected by the person being tested. In fact, the method described in Horn relies on both the noise signal and the tone used as stimulus during the hearing test, being in the audible range. The test principle is finding the

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"critical ratio" the local tone-to-noise ratio at which the tone becomes audible in the noise. This critical ratio tends to increase for impaired ears because the impaired ear gathers noise energy over a wider frequency range than does the normal ear and thus the tone must be at a higher level to compete with the noise. However, the procedure of Horn requires the tone AND the noise (i.e., both sub-stimuli) to be heard.

The present invention is directed to a completely different problem. As should be clear upon review of the amendment, the present invention relates to generating a stimulus using a digital stimulus signal which results in an audio stimulus having reduced quantization errors and reduced harmonic distortion.

Thus, the independent claims 1, 11, 21 and 27 have been amended to clarify this feature of the invention, without loss of scope. Claims 2, 4, 8, 10, 12, 14, 15 18, 20, 22, 25, 28-29 and 32 have been amended in parallel manner. Claim 34 is added, depending from claim 21, and corresponding with claim 4, that depends from claim 1. We note that the Examiner overlooked limitations in independent claims 11 and 27 at page 4 and page 5 of the Official Action, in concluding that they are the same as claims 1 and 21. In claims 11 and 27, the second sub-stimulus is outside the frequency range of the hearing test, rather than outside the audible range of humans as stated in claims 1 and 21.

Horn does not anticipate the claims as amended.

Accordingly, reconsideration of the rejection of claims 1, 2, 4, 8, 10-12, 14, 15 18, 20-22, 25, 27-29 and 32 as amended is respectfully requested.

Rejection of Claims 3 and 13 under 35 U.S.C. §103(a)

Claims 3 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over Horn, in view of "Official Notice." Claims 3 and 13 depend from claims 1 and 11, respectively, and are allowable on that basis, and because of the unique combinations recited.

Accordingly, reconsideration of the rejection of claims 3 and 13 as amended is respectfully requested.

Rejection of Claims 6, 16, 23 and 30 under 35 U.S.C. §103(a)

Claims 6, 16, 23 and 30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Horn in view of Davis et al., U.S. Patent 6,201,875. Claims 6, 16, 23 and 30 depend from claims

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1, 11, 21 and 27 respectively, and are allowable on that basis, and because of the unique combinations recited.

Accordingly, reconsideration of the rejection of claims 6, 16, 23 and 30 as amended is respectfully requested.

Rejection of Claims 9, 19, 26 and 33 under 35 U.S.C. §103(a)

Claims 9, 19, 26 and 33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Horn in view of Gleeson III, U.S. Patent 4,902,274. Claims 9, 19, 26 and 33 depend from claims 1, 11, 21 and 27 respectively, and are allowable on that basis, and because of the unique combinations recited. We note that this interpretation of Horn, reading the second sub-stimulus as the noise signal, is inconsistent with reading the claims as anticipated by Horn, because the noise signal in Horn is within the audible range of the test, and cannot be considered to be a sub-stimulus outside the audible range or outside the frequency range as claimed herein.

Accordingly, reconsideration of the rejection of claims 9, 19, 26 and 33 as amended is respectfully requested.

Rejection of Claims 7, 17, 24 and 31 under 35 U.S.C. §103(a)

Claims 7, 17, 24 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horn in view of Priddy et al., U.S. Patent 5,774,216. Claims 7, 17, 24 and 31 depend from claims 1, 11, 21 and 27 respectively, and are allowable on that basis, and because of the unique combinations recited. We note that Priddy et al. arises from an unrelated art - that of ring laser gyroscopes, and is not a proper reference in the present application. The Examiner's citation of Priddy et al. is apparently a mistake.

Accordingly, reconsideration of the rejection of claims 7, 17, 24 and 31 as amended is respectfully requested.

CONCLUSION

It is respectfully submitted that this application is now in condition for allowance, and such action is requested.

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The Commissioner is hereby authorized to charge any fee determined to be due in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (RXSD 1022-1).

Respectfully submitted,

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